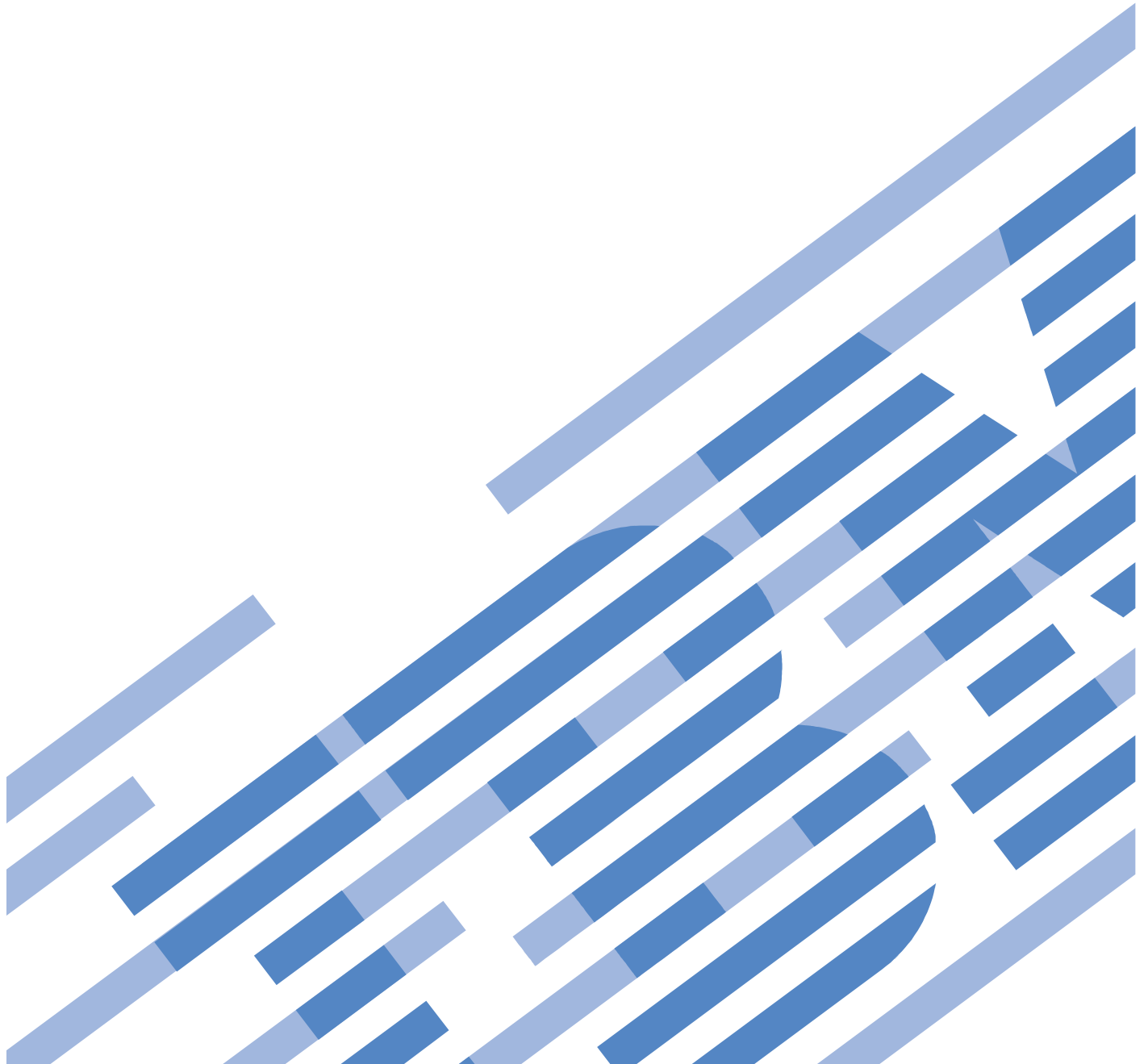


Power775

Vital Product Data (VPD) Card Service Procedure

Last Modified 2/27/2012



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1 GENERAL

1.1 Release / Revision History

Document Name	Date	PDF name	Description
Power775 Vital Product Data (VPD) Card Service Procedure	2/27/2012	"p775_cec_vpd_card.pdf"	Initial Release

Table 1 Release / Revision History

1.2 Where to find this document, and contents of the parent PDF

The current Power775 Vital Product Data (VPD) Card Service Procedure document is "p775_cec_vpd_card.pdf" which is to be downloaded from:

InfoCenter Website: <http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7ee2/p7ee2kickoff.htm>

Click "PDF files for the IBM Power 775 (9125-F2C) removing and replacing parts"

Under "System Enclosure", click "Vital Product Data (VPD) Card" to download PDF "p775_cec_vpd_card.pdf"

This is the only valid source for the latest Power775 Vital Product Data (VPD) Card Service Procedure.

1.3 Required Documents

Document	Doc Number	Location
Safety Notices http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7hdx/G229-9054.pdf	Doc# G229-9054	InfoCenter *

Table 2 Required Documents

*InfoCenter Website: <http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7ee2/p7ee2kickoff.htm>

1.4 Related Documents

Document	Doc Number	Location
"GPFS Native RAID Administration and Programming Reference"	SA23-1354	InfoCenter *

Table 3 Related Documents

*InfoCenter Website: <http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7ee2/p7ee2kickoff.htm>

1.5 Abbreviations

Abbreviation	Definition	Details
CEC	Central Electronic Complex	Also referred to as the node.
DCCA	Distributed Conversion and Control Assembly	The power supplies for the CEC and DE are called the CEC DCCA and DE DCCA respectively.
DE	Disk Enclosure	
GPFS	Global Parallel File System	IBM's file system utilizing software RAID
HDD	Hard Disk Drive	This also means hard drive
HPIC	High Power Interface Cable	DCCA Power Cable
LED	Light Emitting Diode	
PCB	Printed Circuit Board	
RAID	Redundant Array of Inexpensive Disks	
SAS	Serial Attached SCSI	Protocol used for direct attached storage
SSR	System Service Representative	IBM Service personnel
SSD	Solid State Drive	
UEPO	Unit Emergency Power Off	
UNVSA	Utility Non-Volatile Storage Assembly	Hard drive function in PCIe cassette

2 OVERVIEW

This section is an overview only. Do not start the service procedure until Section 3 which contains the detailed steps.

2.1 Safety Notices

Read “Safety_Notices “ available from InfoCenter at this link:
<http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7hdx/G229-9054.pdf>

The following cautions apply to all Power775 service procedures:

CAUTION:
Energy hazard present. Shorting might result in system outage and possible physical injury. Remove all metallic jewelry before servicing. (C001)

CAUTION:
The doors and covers to the product are to be closed at all times except for service by trained service personnel. All covers must be replaced and doors locked at the conclusion of the service operation. (C013)

CAUTION:
Servicing of this product or unit is to be performed by trained service personnel only. (C032)

The following notices specifically pertain to this Power775 service procedure:

CAUTION:
This part or unit is heavy but has a weight smaller than 18 kg (39.7 lb). Use care when lifting, removing, or installing this part or unit. (C008)

CAUTION:
This product contains a Class 1M laser. Do not view directly with optical instruments. (C028)

CAUTION:
The water-based coolant solution may contain an additive intended to inhibit corrosion (or provide other functions). The solution may cause irritation to the skin or eyes. Avoid direct contact with the solution. Employ appropriate Personal Protective Equipment when performing operations involving the coolant or which may potentially expose you to the coolant. Refer to the MSDS for more information. (C037)

CAUTION:
Following the service procedure assures power is removed from 350 VDC power distribution connectors before they are unplugged. However, unplugging 350 VDC power distribution connectors while powered on, should not be done because it can cause connector damage and could result in burn and/or shock injury from electrical arcing. (C039)



DANGER: Rack-mounted devices are not to be used as shelves or work spaces. (L002)



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CAUTION: Hazardous energy present. Voltages with hazardous energy might cause heating when shorted with metal, which might result in splattered metal, burns, or both. (L005)



CAUTION: Protective eyewear is needed for the procedure. (L011)

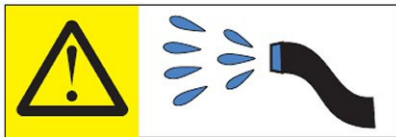


CAUTION: Pinch hazard. (L012)

ATTENTION: Small gaps exist that could pinch body parts if care is not exercised.



CAUTION: Chemical resistant gloves are needed for this procedure. (L014)



DANGER: Risk of electric shock due to water or a water solution which is present in this product.

Avoid working on or near energized equipment with wet hands or when spilled water is present. (L016)



DANGER: Risk of injury due to heavy components falling from rack if the supplemental supports are not installed. (L019)

ATTENTION: The supplemental supports (Cam Followers) must be installed for the CEC or DE slide out service.



CAUTION: Do not pull out more than one drawer at a time. The rack might become unstable if you pull out more than one drawer at a time. (L024)

2.2 File System Risk Statement

The Global Parallel File System (GPFS) implementation of software RAID stripes data across all the Disk Enclosures in the cluster. **If servicing a CEC Drawer supporting a Service Node, then all Disk Enclosures running off of this service node will go into panic and become unavailable. If servicing a CEC Drawer supporting a GPFS node then the file**

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system will go into panic and become unavailable. To avoid this situation you must migrate the drawers to be served by other nodes/CEC Drawers.

2.3 Confirm how you got to this Power 775 Vital Product Data (VPD) card Service Procedure

You should be performing this procedure if either:

The HMC VPD Card Exchange FRU procedure or a Repair of a VPD Card callout in a Serviceable Event instructed you to obtain this paper procedure.

You should have downloaded this procedure from:

InfoCenter Website: <http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7ee2/p7ee2kickoff.htm>

This is the only valid source for the latest Power775 Vital Product Data (VPD) card Service Procedure

2.4 Vital Product Data (VPD) card Description

Referring to Figure 1 below, the VPD Cards are located in the CEC Drawers.

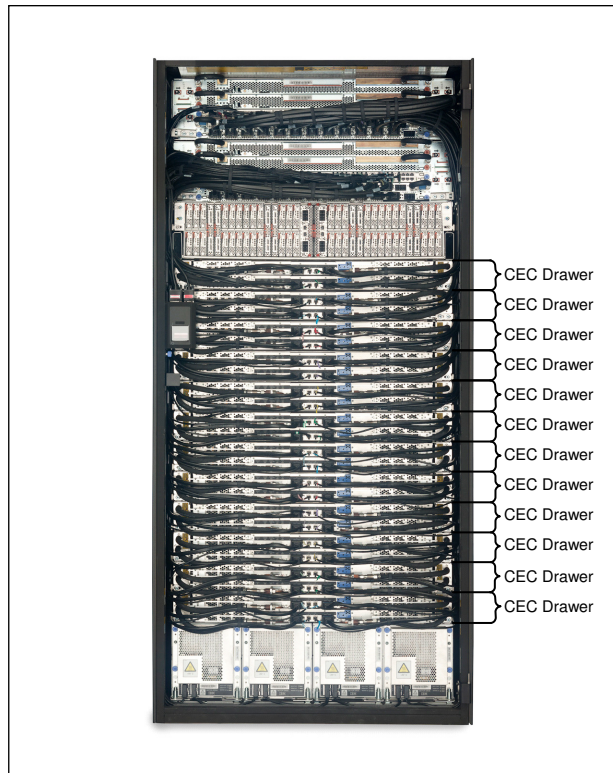


Figure 1 CEC Drawer locations

Figure 2 shows the CEC Drawer with the cover removed and VPD location noted.

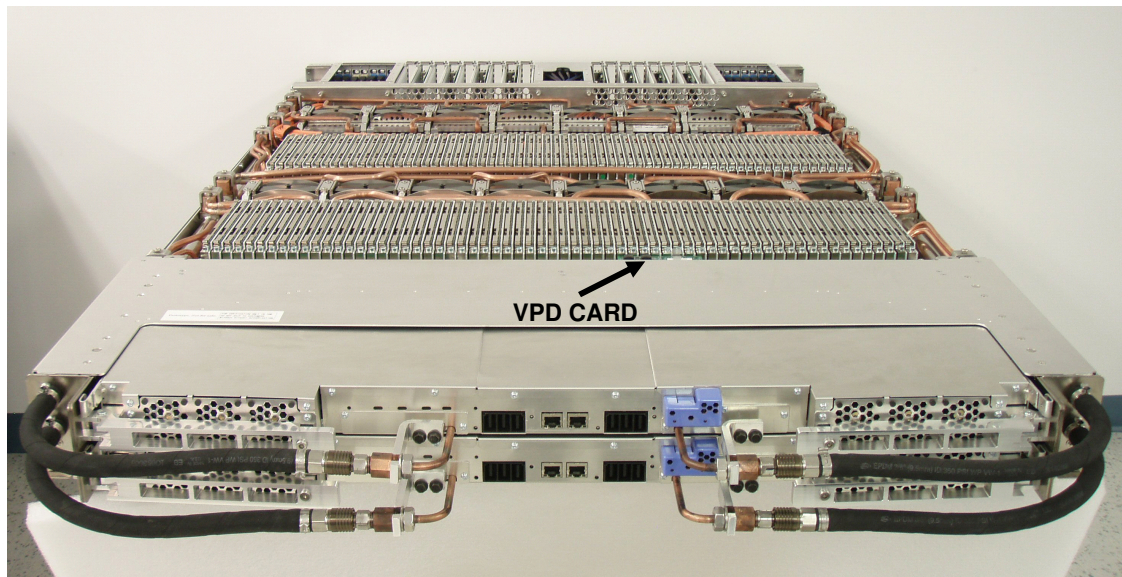


Figure 2 VPD Card Location in CEC Drawer

2.5 Background

The VPD card contains the Capacity on Demand data for the CEC drawer. The VPD card is mechanically retained in the system with a clip made of Polycarbonate GE Cycloxy C2950 that snaps in place along opposite sides of the VPD card. Without the VPD card installed, the CEC drawer will not properly boot. Figure 3 shows a photo of the VPD card.

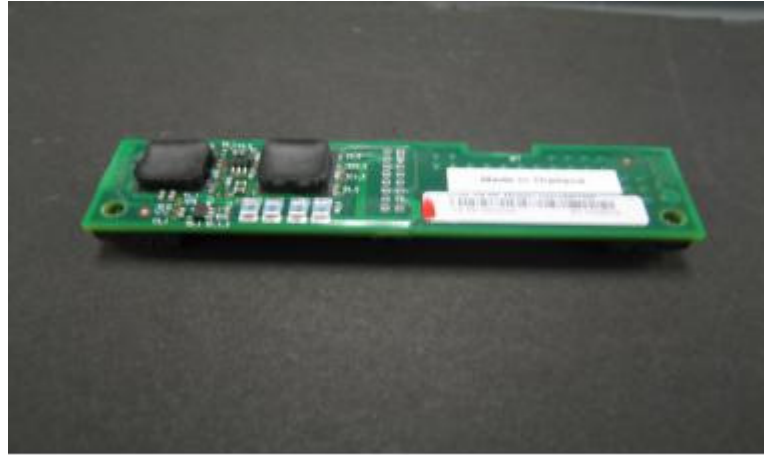


Figure 3 VPD Card

2.6 Concurrency

The VPD card is not concurrently maintainable within the CEC drawer. The CEC drawer in which the VPD card is being replaced must be powered down completely and 350 volts must be off. All other CEC drawers in the system can remain powered on.

2.7 Vital Product Data (VPD) card Weight

The VPD card has negligible weight.

2.8 Required SSRs and Roles

This service procedure requires one SSR.

This service procedure contains steps to be performed by a customer system administrator and an IBM SSR (System Service Representative).

- The customer system administrator performs the STEPs in Sections marked with “<= CUSTOMER TASK”
- The SSR performs the STEPs in Sections marked with “<= SSR TASK”

2.9 Estimated Service Time

2 hours

2.10 P7IH Hand Tool Kit Required Tools

- 2mm Hex Driver (0.07Nm Torque setting), PN 74Y0983, HPIC Jackscrews
- 3/8" Ratchet, PN 6428140, CEC Drawer Mounting
- 3/8" Torque Clutch - (23 - 31 Nm torque setting), PN 74Y0985, CEC Drawer Mounting
- 3/8" Extension - 18", PN 46K2707, CEC Drawer Mounting

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- 3/8" Socket Bit, 5mm Hex, PN 74Y0986, CEC Drawer Mounting
 - Flat Blade Screw Driver - 1/8" X 4", PN 73G5367, to remove CEC Drawer top cover
-

2.11 Prerequisites for this Procedure

In order to perform this procedure, you will need the following information:

- 1) The location code of the FRU to be serviced
 - 2) The cage location of the FRU to be serviced
 - 3) The frame number of the FRU to be serviced
-

2.12 Overview of Procedure

This is an overview of the tasks to be performed. Read this overview but do not perform any of the tasks yet.

PREPARE CEC DRAWER FOR SERVICE
HAVE CUSTOMER CHECK FOR GPFS NODE AND SHUTDOWN CEC DRAWER
SAVE SYSTEM IDENTIFIERS
HAVE CUSTOMER SHUTDOWN CEC DRAWER
START FRU REPLACEMENT PROCEDURE
MECHANICAL PREPARATIONS FOR CEC DRAWER SERVICE
MOVE CEC DRAWER TO SERVICE POSITION
REPLACE VPD CARD
RE-INSTALL CEC DRAWER TO ORIGINAL POSITION
POWER ON CEC DRAWER AND ACTIVATE VPD CODES
VERIFY ALL D-LINKS AND L-LINKS ARE OPERATIONAL
CONFIRM WITH CUSTOMER THAT CEC IS OPERATIONAL

3 SERVICE PROCEDURE

STOP – Do not proceed unless you have read “G229-9054.pdf” which is available from InfoCenter; see Section 1.3.

3.1 Prepare CEC Drawer for Service <= SSR TASK

STEP 1 The HMC can be accessed via the keyboard/display that resides in the management rack or by plugging a laptop into the BPCH of the rack where the service will be performed.

STEP 2 Logon to the HMC.

STEP 3 Determine if the CEC Drawer contains the Service node, see Figure 4 . If it does, have the system administrator reassign the nodes supported by the Service Node to the backup service node. (A CEC Drawer with a Service node will have a UNVSA card (usually 2 as shown below) and a 2 port SAS card plugged its PCI slot(s) (the UNVSAs are normally plugged into PCI slots 14 & 16, the SAS card in slot 15, but may be in any 3 locations in the CEC Drawer) . If the CEC Drawer has one of its octants functioning as a Service node, all the CEC Drawers being supported by the Service node must be reassigned to the backup Service node in the building block before powering the CEC off.)

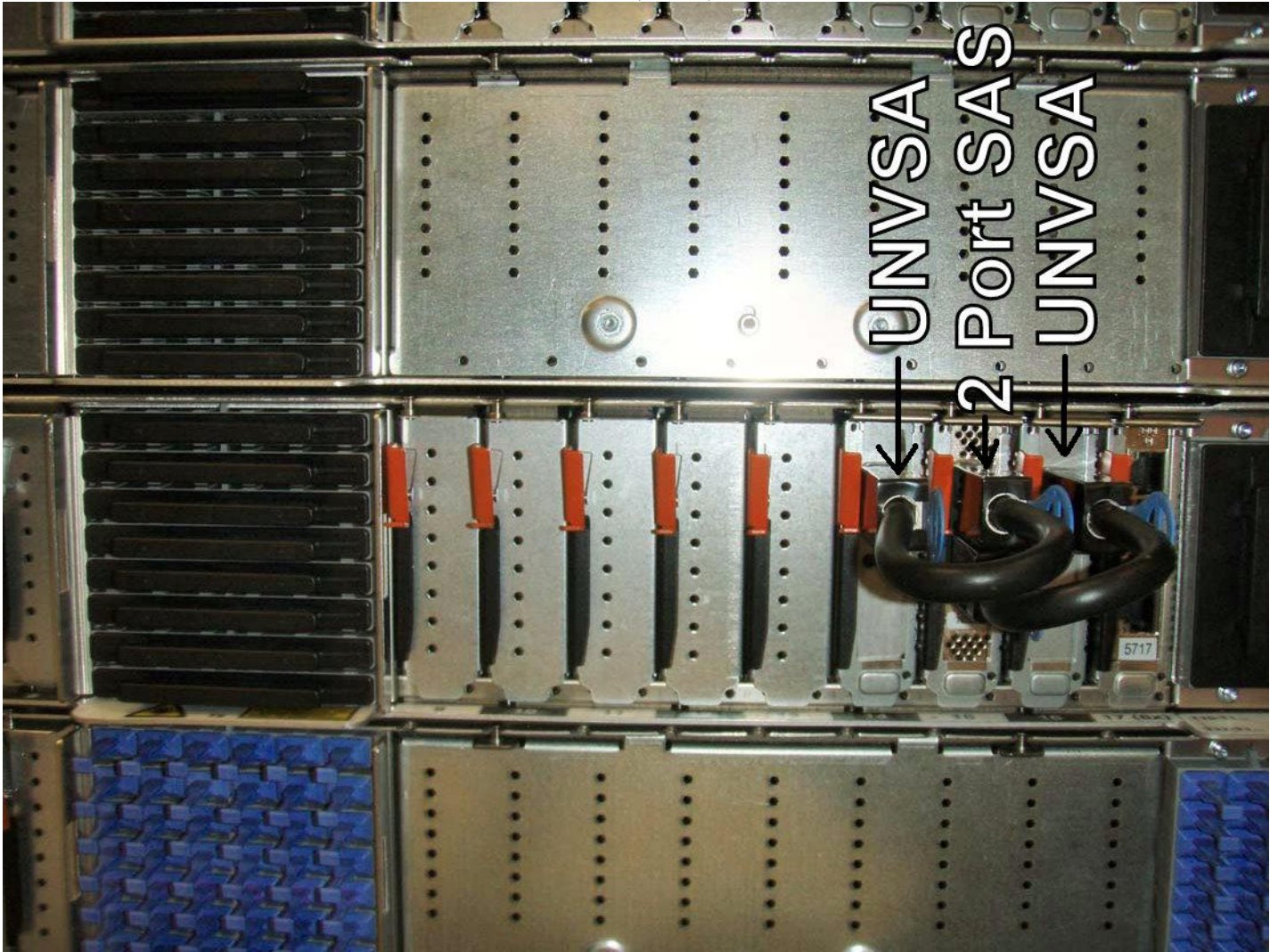


Figure 4 Service Node configuration

3.2 Have customer check for GPFS node and shutdown CEC Drawer <= CUSTOMER TASK

STEP 4 Check for GPFS node in CEC Drawer to be serviced

- Have the customer determine if there is a GPFS node in the CEC drawer to be shut down.
- If the CEC drawer contains a GPFS node, verify that there is an active backup GPFS node for the GPFS node that will be shut down during this service action. **If there is no active backup, the filesystem will go down when this CEC drawer is shut down.**
- If there is an active backup GPFS node, proceed to STEP 5.
- If there is no active backup GPFS node, perform the following:
 - If you can activate the backup GPFS node, activate it before proceeding with this service action. After the backup GPFS is active, you may proceed to STEP 5.
 - If you cannot activate the backup GPFS node because it requires service, service the backup GPFS node first. Then activate it, and confirm that it is acting as a backup for the GPFS node that is in this CEC drawer. After the backup GPFS is active, you may proceed to STEP 5.
 - If you cannot activate the backup GPFS node and you cannot service it before proceeding, prepare the cluster for the filesystem to come down before proceeding. After the filesystem has come down gracefully, you may proceed to STEP 5.

STEP 5 Have the system administrator to ensure that the CEC Drawer has no active partitions running. (This procedure is not a concurrent process from the point of view of the CEC Drawer whose VPD Card is being serviced. It should be noted that this procedure is concurrent from the point of view of the other CEC Drawers in the rack. The procedure does not affect the other CEC Drawers in the rack from continuing to be used.)

3.3 Save system identifiers <= SSR TASK

STEP 6 Access ASM through the HMC. Use the administrator userid and password.

STEP 7 Save the system identifiers from the CEC to be serviced. Note: This must be completed before powering off the CEC drawer.

- a. On the ASM Welcome panel, specify your user ID and password, and click Log in. Note: To perform this operation, your authority level must be Administrator or Authorized service provider.
- b. In the navigation area, expand System Configuration and Program Vital Product Data.
- c. Select System Brand.
- d. In the right pane, manually record the value for the System Brand.
- e. Select System Keywords under Program Vital Product Data.

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- f. In the right pane, manually record the values for the machine type-model, system serial number and system unique ID.

- g. Record the World Wide Port name

- h. Record the RB Keyword

3.4 Have customer shutdown CEC Drawer <= CUSTOMER TASK

STEP 8 Have customer shutdown and power off the CEC Drawer being serviced.

3.5 Start FRU Replacement Procedure <= SSR TASK

The servicing of a VPD Card can be performed two ways. Service can be initiated either from the Exchange FRU procedure from the HMC Systems Management Serviceability menu option for a selected CEC Drawer or through the Manage Serviceable Events menu option after a particular Serviceable Event has called out a VPD Card needing repair.

If servicing a VPD Card via an Exchange FRU procedure or through the Manage Serviceable Events option, skip to STEP 17.

If servicing a VPD Card via the paper procedure, continue to STEP 9.

STEP 9 Initiate the procedure by using VPD Card FRU exchange as described below:

STEP 10 In the HMC left Navigation pane, expand **Systems Management** then click **Servers**.

STEP 11 Place a checkmark in the **Select** column for the Server with the CEC Drawer to be serviced. See Figure 5 .

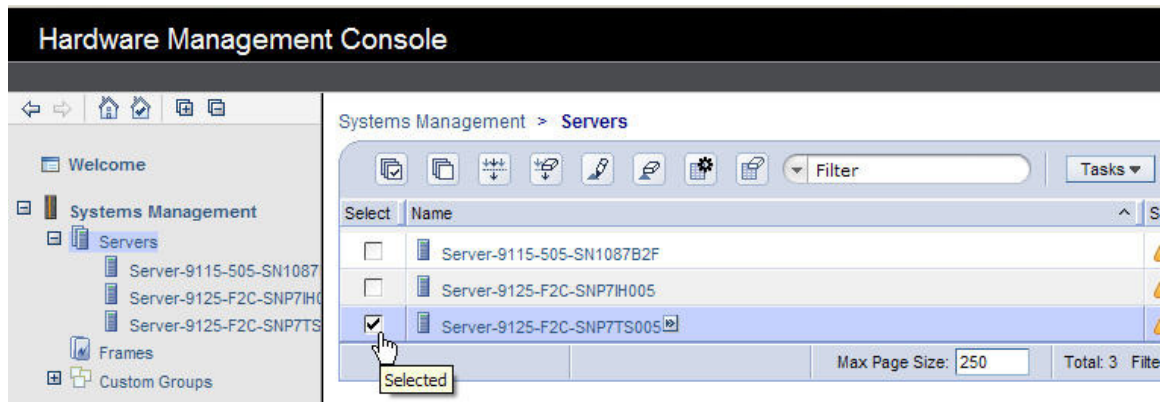


Figure 5 HMC CEC Drawer Selection

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STEP 12 From the **Tasks** menu *select Serviceability -> Hardware -> Exchange FRU*. See Figure 6.

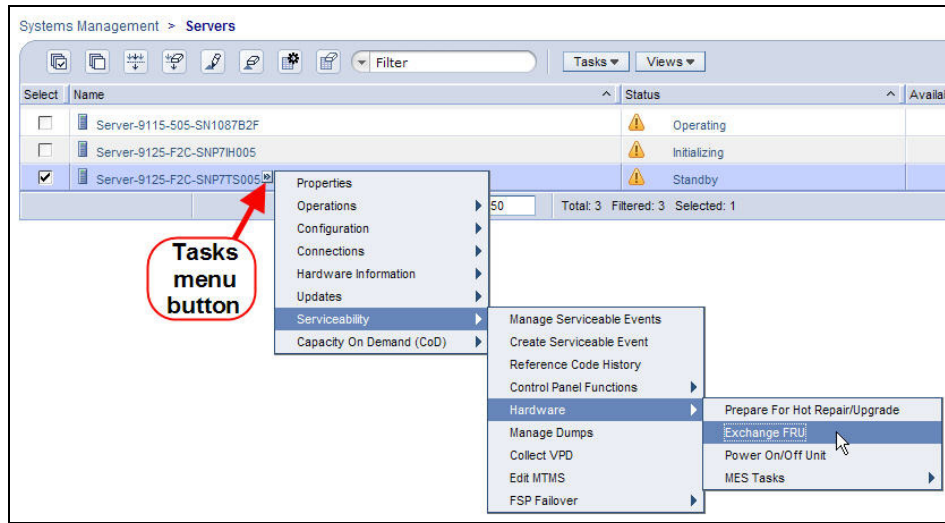


Figure 6 Exchange FRU Panel

STEP 13 In the Replace **Hardware – Replace FRU, Select FRU Type** window *select SystemVPDCard* then *click* the **Next** button. See Figure 7.

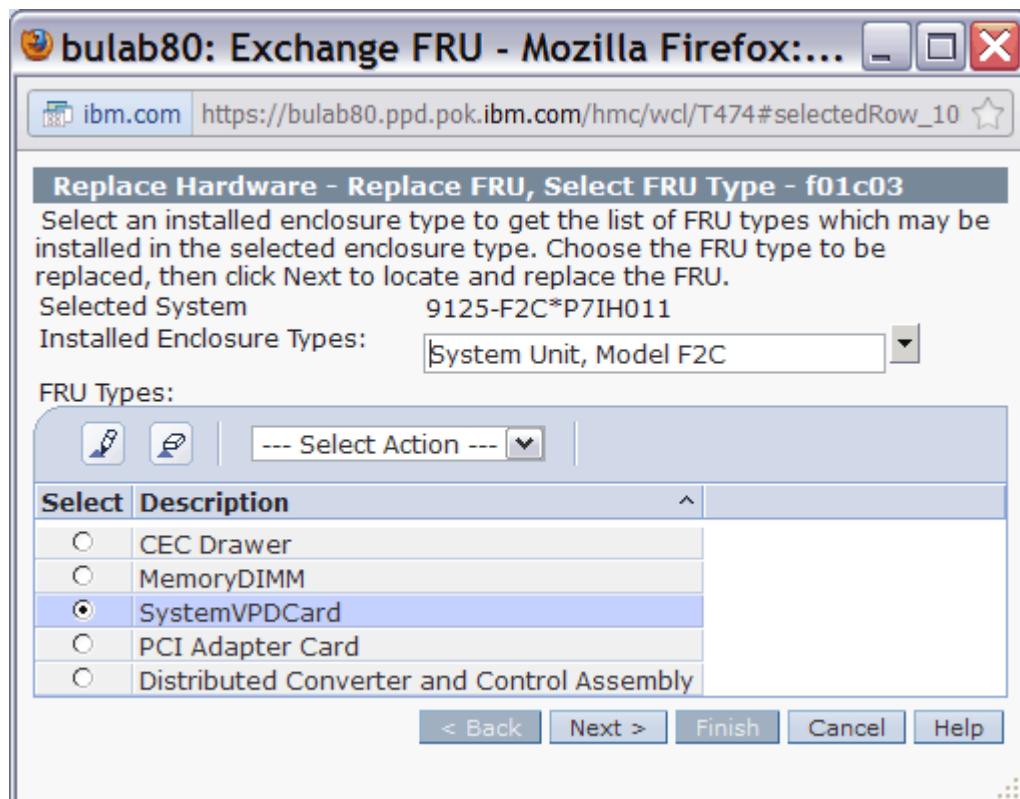


Figure 7 SystemVPDCard Selection

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STEP 14 In the Replace **Hardware – Replace FRU, Select Location** window *select* the FRU Location code to be serviced then *click* the **Add** button. See Figure 8.

- a. *Select* the FRU **Location Code** of the **SystemVPDCard** to be serviced.
- b. Click the Add button.

STEP 15 The selected **Location Code** will be added to the **Pending Actions** list.

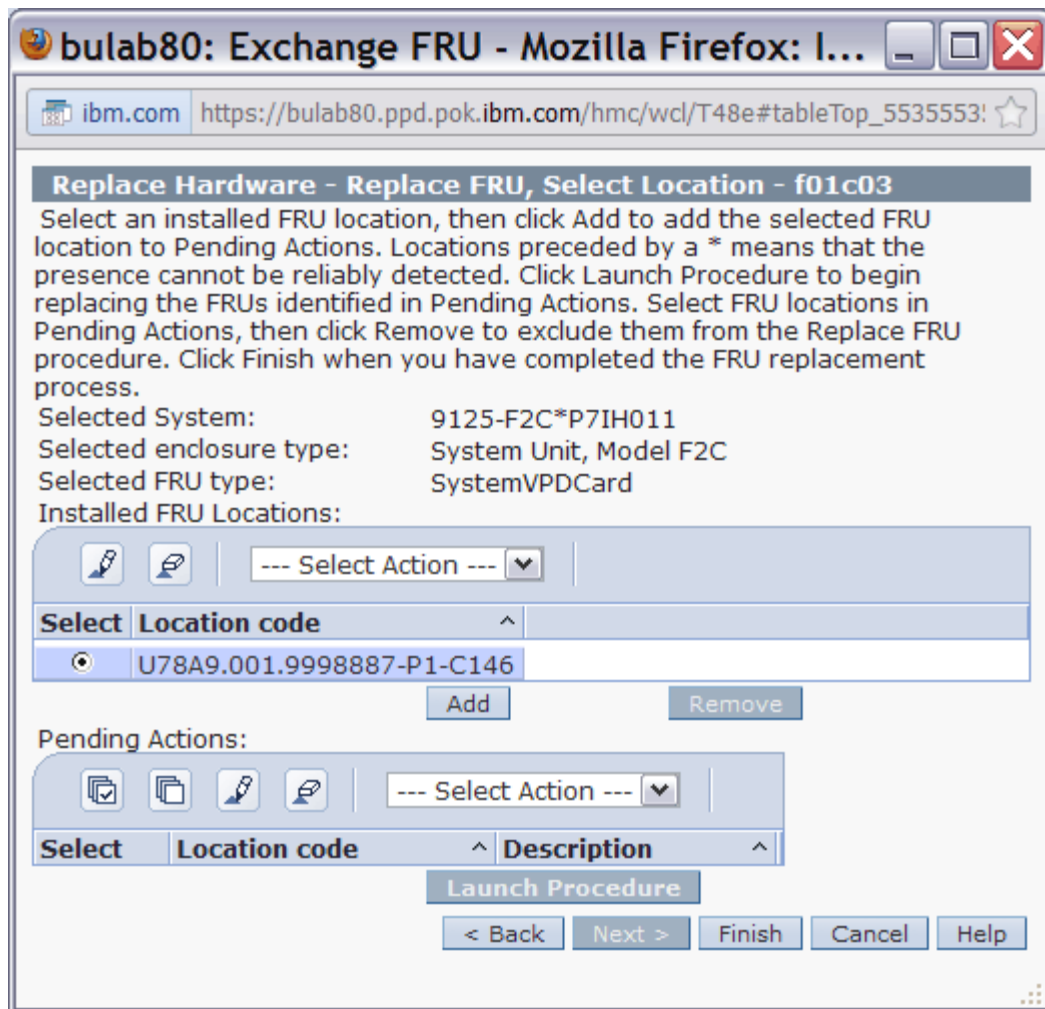


Figure 8 FRU Location Code selection

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STEP 16 In the **Pending Actions** list, place a checkmark in the **Select** column for the CEC Drawer to be serviced then *click* the **Launch Procedure** button. See Figure 9.

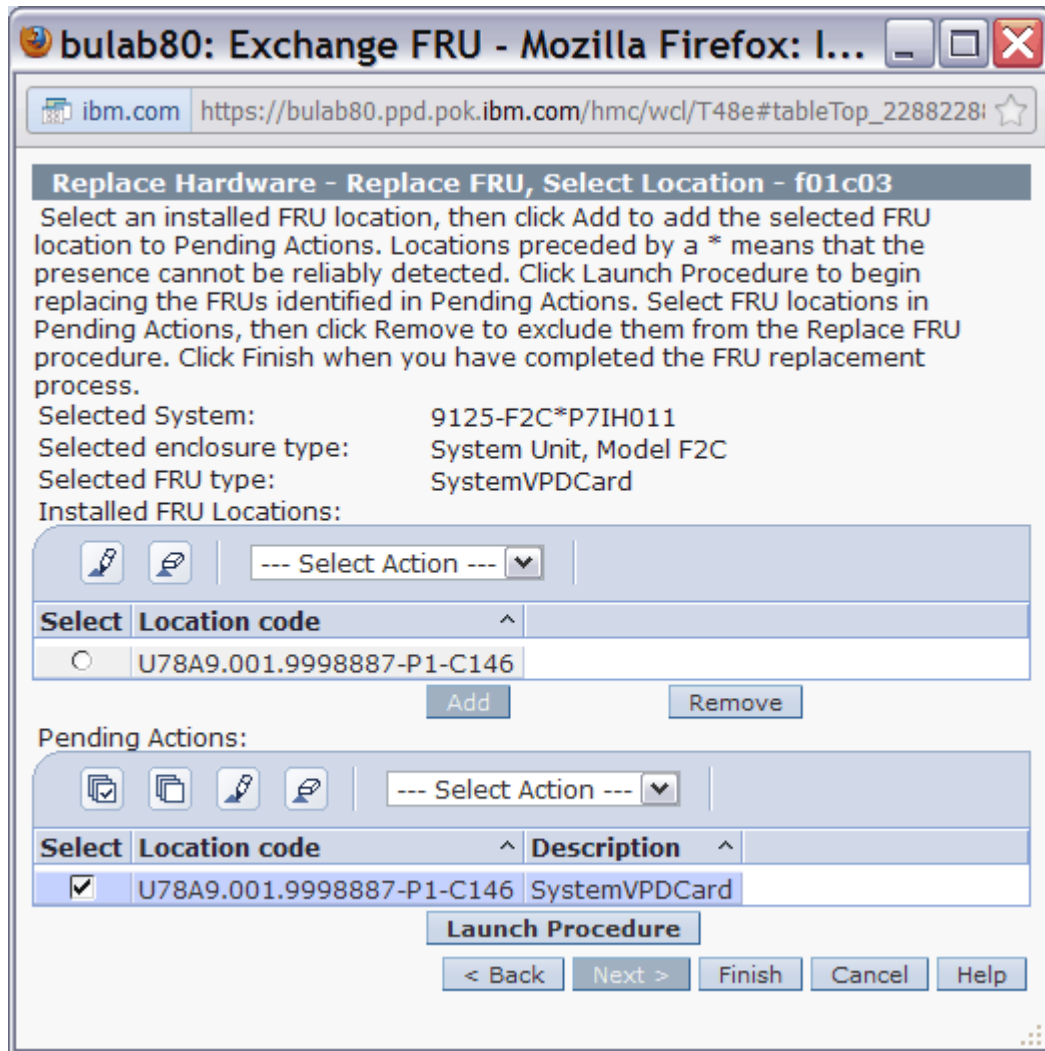


Figure 9 Pending Actions Panel

STEP 17 Follow the R&V Panels until directed to return to this paper procedure.

3.6 Mechanical Preparations for CEC Drawer Service <= SSR TASK

CAUTION:

This part or unit is heavy but has a weight smaller than 18 kg (39.7 lb). Use care when lifting, removing, or installing this part or unit. (C008)

- STEP 18 Open and remove the front door, See Figure 10. The front door weights 37lbs (16.8 kg)
- Push in the door lock latch to release and open the door.
 - Face the inside of the door and place hands on the cross bars.
 - Lift upwards.



Figure 10 Removal of Front Door



DANGER: Risk of injury due to heavy components falling from rack if the supplemental supports are not installed. (L019)

ATTENTION: The supplemental supports (Cam Followers) must be installed for the CEC or DE slide out service.

STEP 19 Locate and remove the CAM Followers from their storage location, they are shipped in the lowest slot in the frame. Remove the CAM Followers by removing the shipping/retention screw, PN 77G0599 using either a 7mm or 8mm socket (depending on which screw was used in Manufacturing) and store the screw for later use. Complete removal by pulling out the plunger locating pin and sliding the CAM Follower up to remove it from its storage location. Install the CAM Follower(see Figure 11) in the rack slot number of the CEC Drawer being serviced; slide CAM Follower hook into the appropriate frame slot so the roller aligns with CEC Drawer channels, then insert pin into frame rail.

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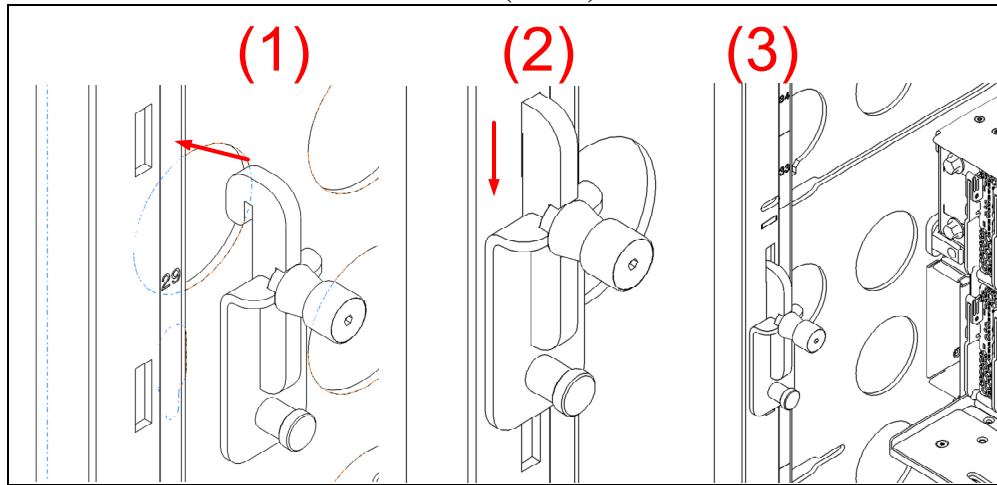


Figure 11 CAM Follower Installation

STEP 20 Go to the back of the rack and open the rear door.

STEP 21 Locate the CEC Drawer being serviced.

(Figure 12 is a photo of a CEC Drawer for the purposes of identifying the D-Link, the L-Link, the PCI cables, and the water connection locations)

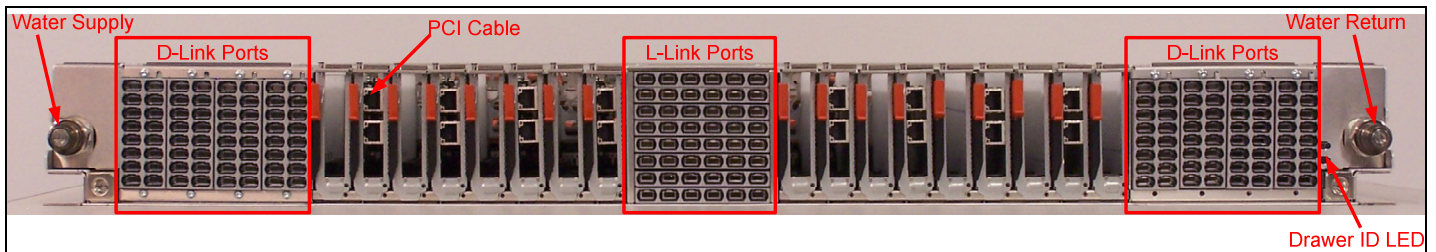


Figure 12 CEC Drawer rear view

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(See Figure 13 for the location codes for the D-Links and the L-Link backplane assembly)

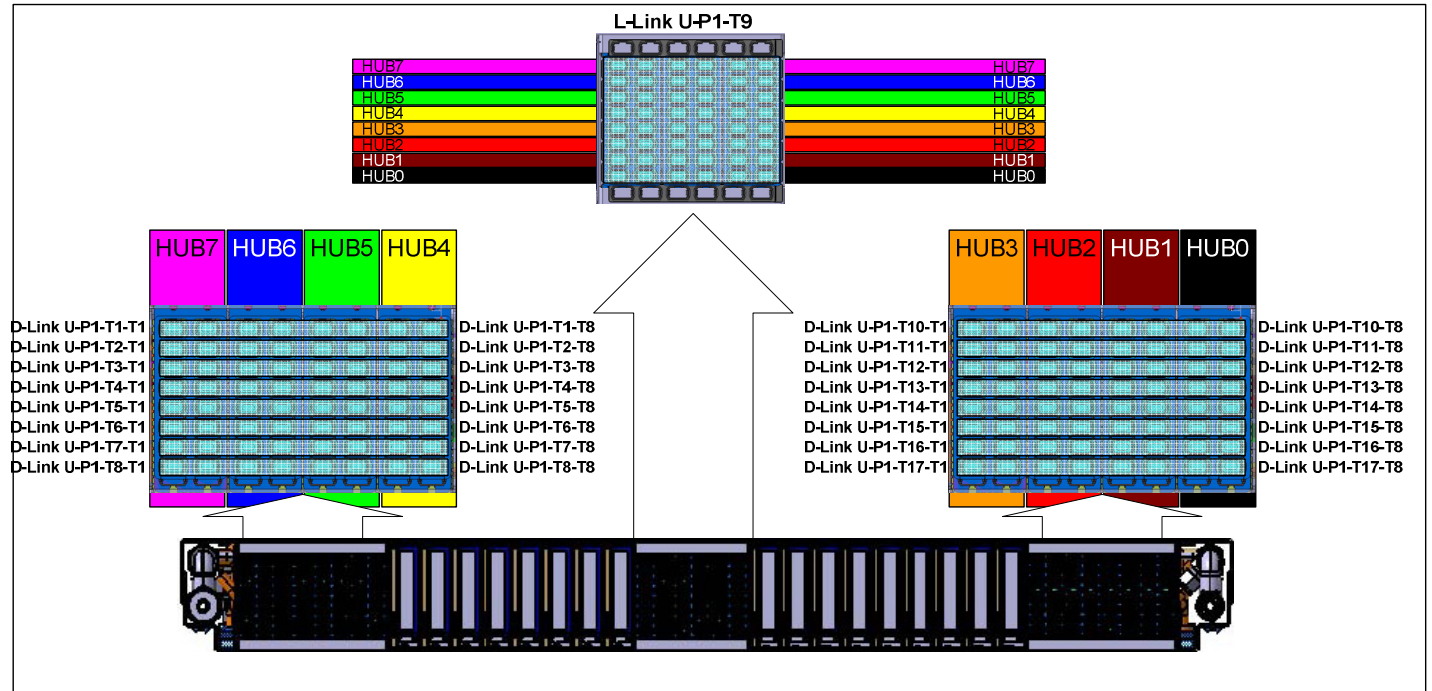


Figure 13 Location Codes for D-Link and L-Link assemblies

STEP 22 Label and disconnect any PCIe card cables

CAUTION:

This product contains a Class 1M laser. Do not view directly with optical instruments. (C028)

STEP 23 Disconnect the L-Links from the CEC Drawer being serviced if present. (some CEC Drawer will not have L-Links). Refer to Figure 13 above. (It is important to note that we must take every precaution to ensure that the L link do not get dirt, dust or other debris on them)

Are you are servicing a CEC Drawer that has L-Links?

If Yes, then continue to STEP 24

If No, then skip to STEP 29

STEP 24 Ensure that all 8 spring clips holding the OBE (Optical Backplane Enclosure) to the CEC drawer are properly latched. Identify the 4 handles in the OBE that plug into the CEC Drawer whose VPD Card is being serviced.



CAUTION: Sharp edges, corners, or joints nearby. (L006)

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STEP 25 Pull out each of the 4 actuation handles until the connectors are unplugged. It is not necessary to pull the handle out more than 1/2 inch. Figure 14 shows a method for pulling out the handles. The photo also shows the spring clips on the right side of the OBE, holding the 4 sections of the OBE to the CEC drawers.

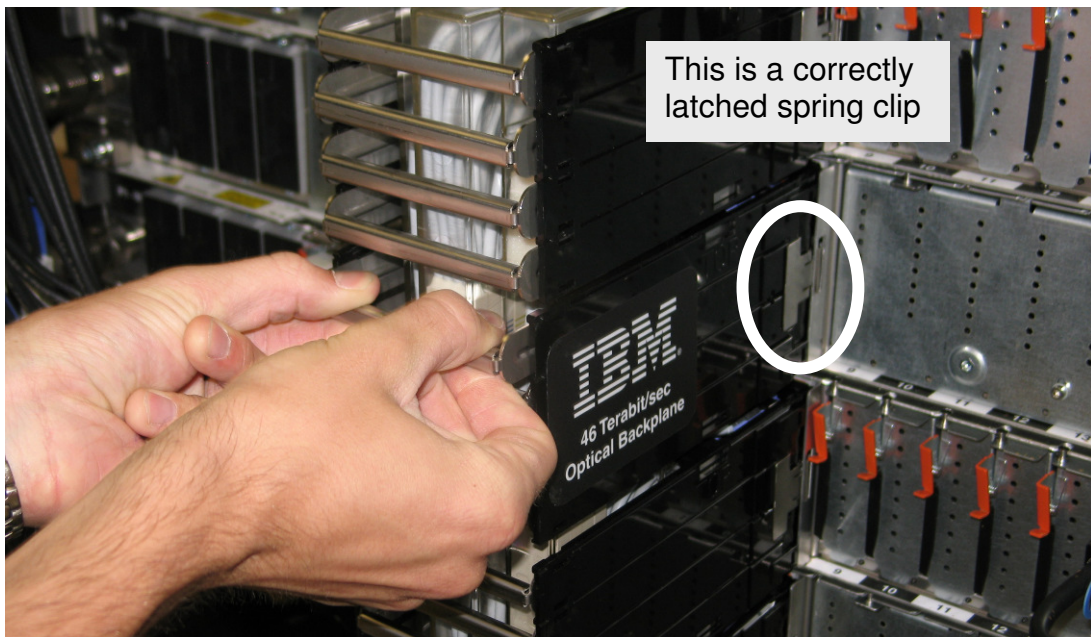


Figure 14 Optical Backplane Enclosure

STEP 26 Detach the OBE section of the CEC drawer being service as follows.

STEP 27 Press in the 2 spring clips on each side of the optical backplane enclosures, to de-latch the OBE from the CEC Drawer being serviced.

STEP 28 Pull the OBE handle/sidewall assembly slightly outward to separate it from the CEC drawer. See Figure 15. Take care not to bump the frame faces of the fiber optic connectors against any surface, including body parts, to prevent contamination or damage on the fiber endfaces. NOTE: Do not remove more than one CEC drawer per OBE at a time - the OBE must be supported by at least 3 CEC drawers while it is installed in the system.

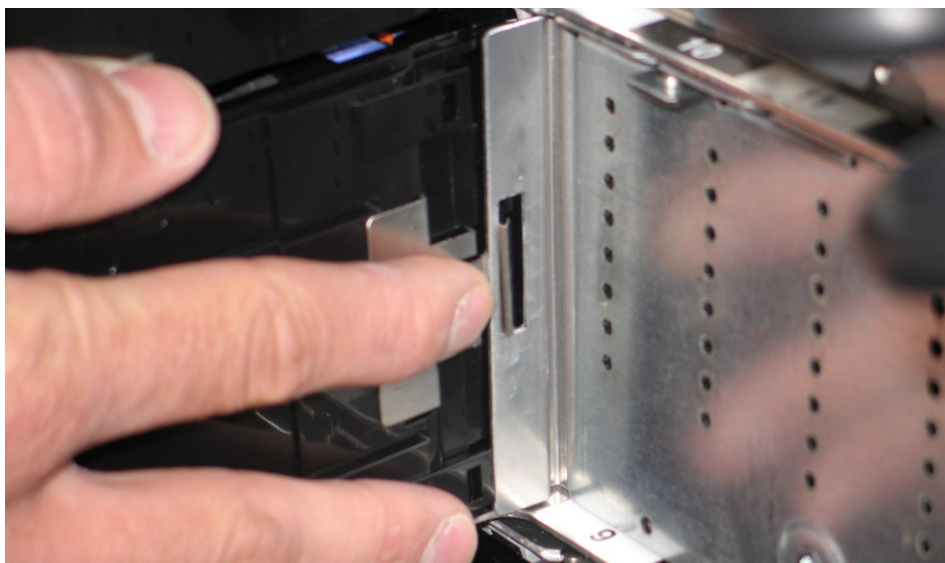


Figure 15 OBE Sidewall Assembly

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STEP 29 Remove the CEC Drawer D-Links from both the left and right rear of the CEC Drawer (Right side of CEC shown in Figure 16) being serviced by pulling on the blue tabs of each D-Link. Take care not to bump the fiber optic connectors against any surface including body parts. (The row of D-Links are contained within the D-Link Grouper and will remain in the housing. It is worth noting that the housing has a label on it with its location and each cable has a label – see Figure 17.) Must remove cable support brackets.

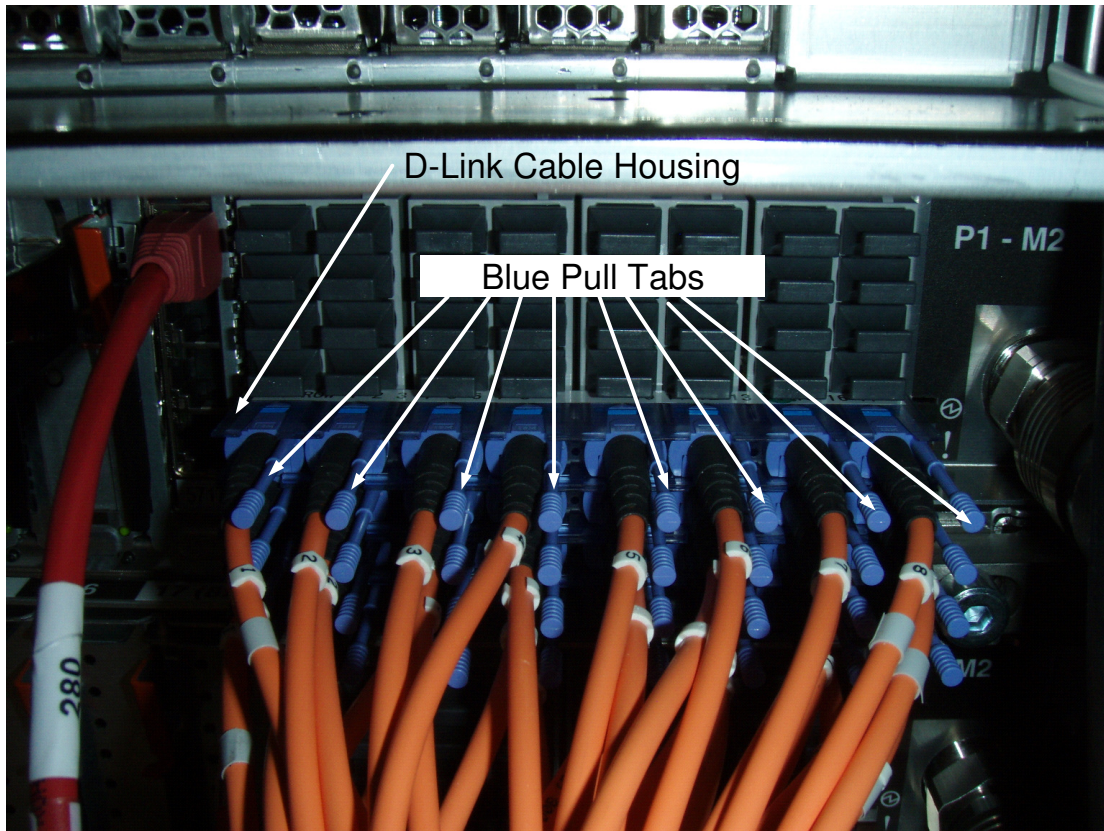


Figure 16 D-Link Grouper

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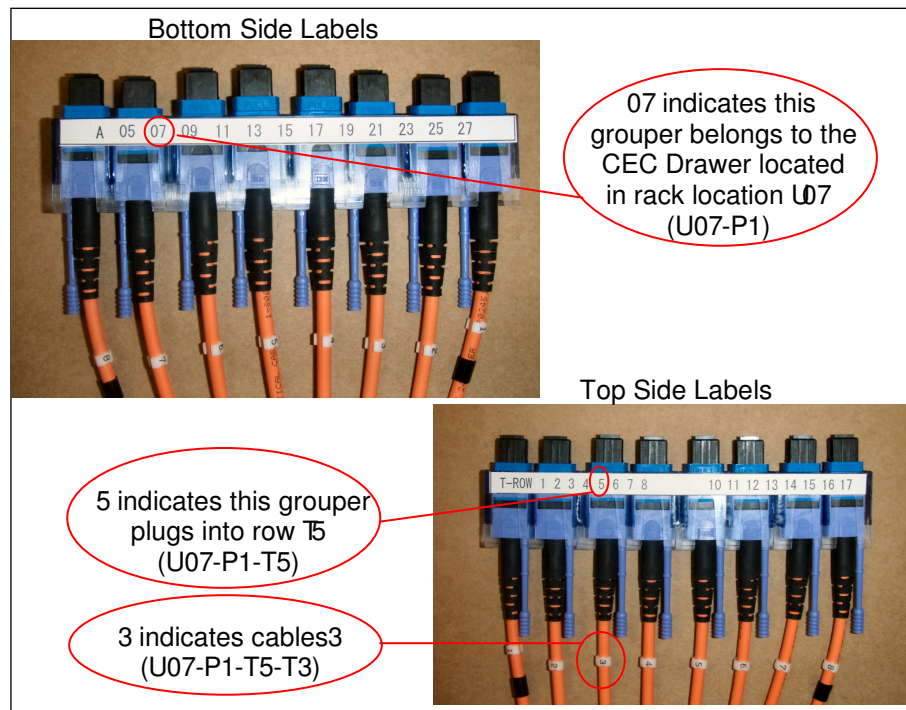


Figure 17 D-Link Grouper assembly detail

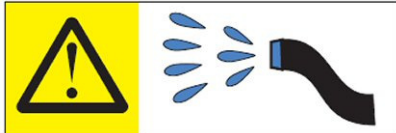
Power775 Vital Product Data (VPD) Card Service Procedure



CAUTION: Protective eyewear is needed for the procedure. (L011)



CAUTION: Chemical resistant gloves are needed for this procedure. (L014)



DANGER: Risk of electric shock due to water or a water solution which is present in this product. Avoid working on or near energized equipment with wet hands or when spilled water is present. (L016)

CAUTION:

The water-based coolant solution may contain an additive intended to inhibit corrosion (or provide other functions). The solution may cause irritation to the skin or eyes. Avoid direct contact with the solution. Employ appropriate Personal Protective Equipment when performing operations involving the coolant or which may potentially expose you to the coolant. Refer to the MSDS for more information. (C037)

STEP 30 Disconnect the two water hoses from the left and right rear(see Figure 18) of the CEC Drawer. Disconnect the hoses by pulling the retaining ring on the hose, see Figure 19.

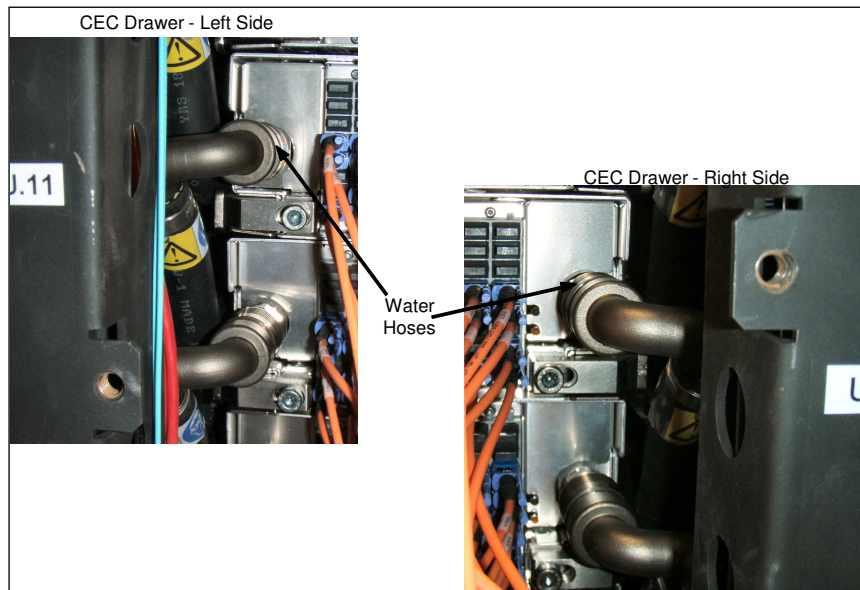


Figure 18 CEC Drawer rear water connections

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Figure 19 CEC Drawer retaining ring image

STEP 31 Ensure that everything has been disconnected from the rear of the CEC Drawer and properly labeled.

Check List:

- 4 L-Link Actuation Handles
- All D-Links to CEC
- PCI Cables
- Both water connections

STEP 32 Loosen the rear CEC Rail mounting bracket captive screws using the tools listed below(see Figure 20):

3/8" Ratchet, PN 6428140

3/8" Extension - 18", PN 46K2707

3/8" Socket Bit, 5mm Hex, PN 74Y0986

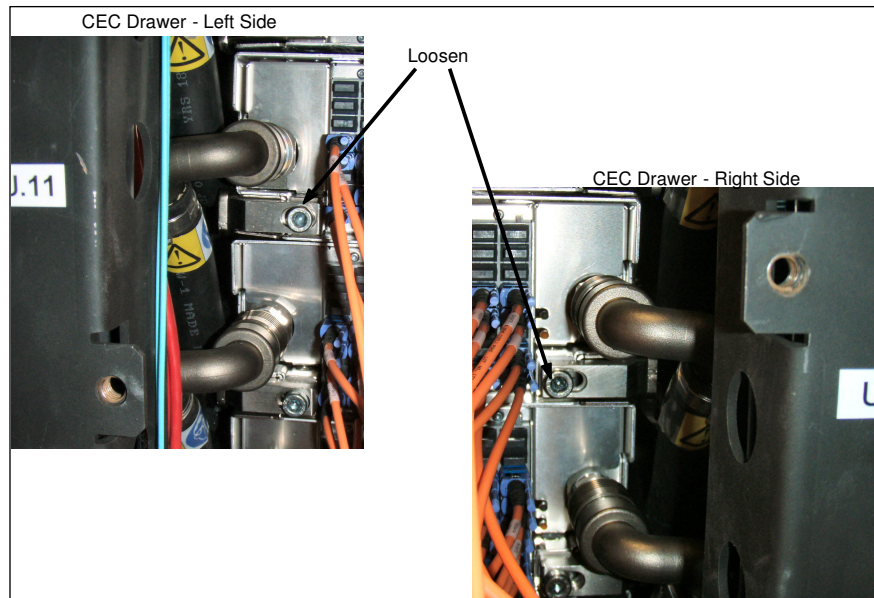


Figure 20 Rear CEC Rail mounting bracket

3.7 Move CEC Drawer to Service Position <= SSR TASK



DANGER: Rack-mounted devices are not to be used as shelves or work spaces. (L002)



DANGER: Risk of injury due to heavy components falling from rack if the supplemental supports are not installed. (L019)

ATTENTION: The supplemental supports (Cam Followers) must be installed for the CEC or DE slide out service.



CAUTION: Do not pull out more than one drawer at a time. The rack might become unstable if you pull out more than one drawer at a time. (L024)

STEP 33 Push the CEC drawer towards the front of the frame approximately 1.5 to 2 inches (30-55mm) while watching to see that all cables and hoses are disconnected from the rear of the CEC drawer.

STEP 34 Return to the front of the rack and start to slide the CEC Drawer out of the frame using the metal features as shown in Figure 21. The metal features are fixed to the DCCA to the left and right side of the DCCA Power Cables.

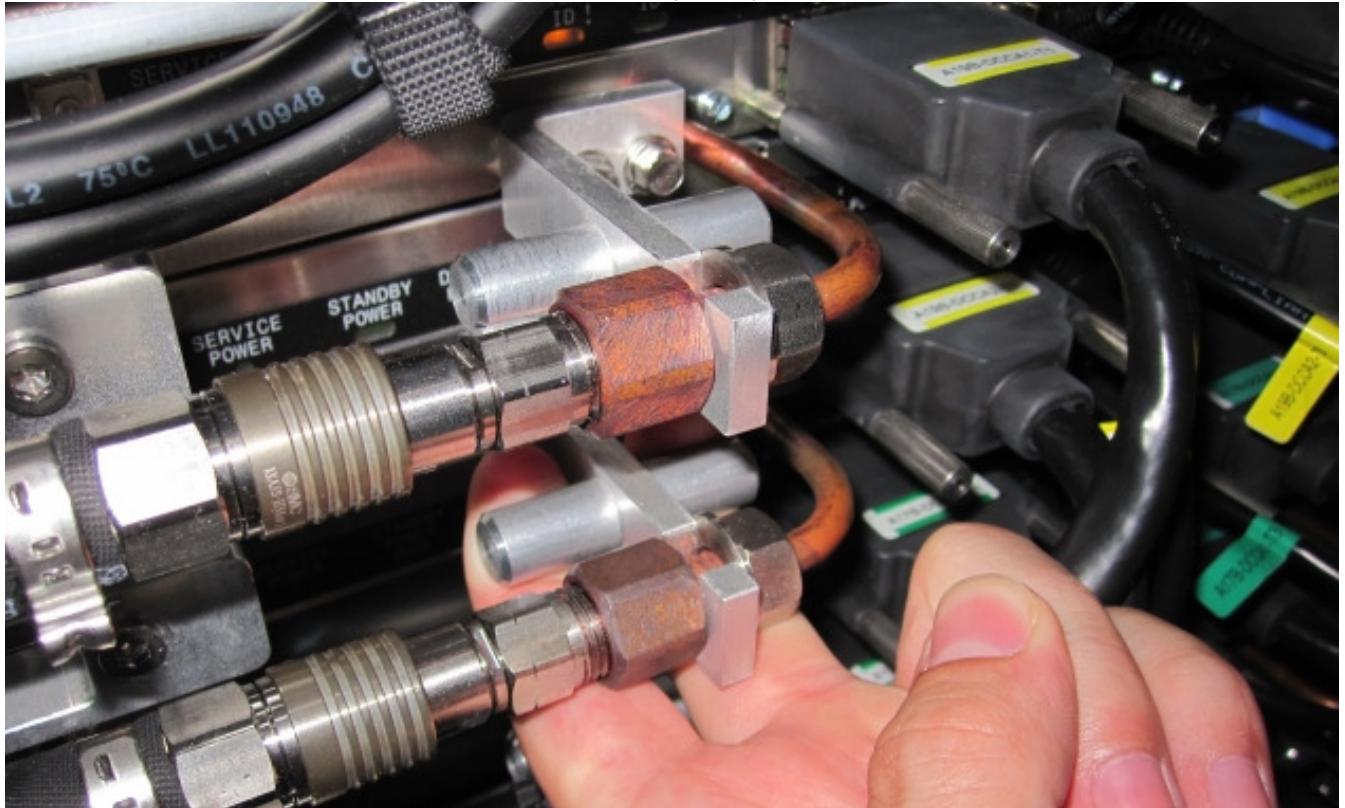


Figure 21 CEC Drawer removal features



CAUTION: Pinch hazard. (L012)

ATTENTION: Small gaps exist that could pinch body parts if care is not exercised.

STEP 35 Continue sliding out the drawer until it has reached the service position as shown in Figure 22.

- **Do not pull the CEC drawer further out than shown in Figure 22**
- **Note, the CEC Drawer has a two stop latch designed into it.** One on the left side of the CEC Drawer and one on the right side. The latches are designed to stop the drawer when it reaches the position shown in Figure 22.
- **Always proceed with safety as the primary concern.**
- **Never stand under the CEC Drawer**
- **Always pull the drawer out slowly**
- **Never pull the CEC drawer further out than required.**

The Drawing below shows the CEC Drawer in the position where the latch has stopped the CEC from being pulled any further.

Power775 Vital Product Data (VPD) Card Service Procedure

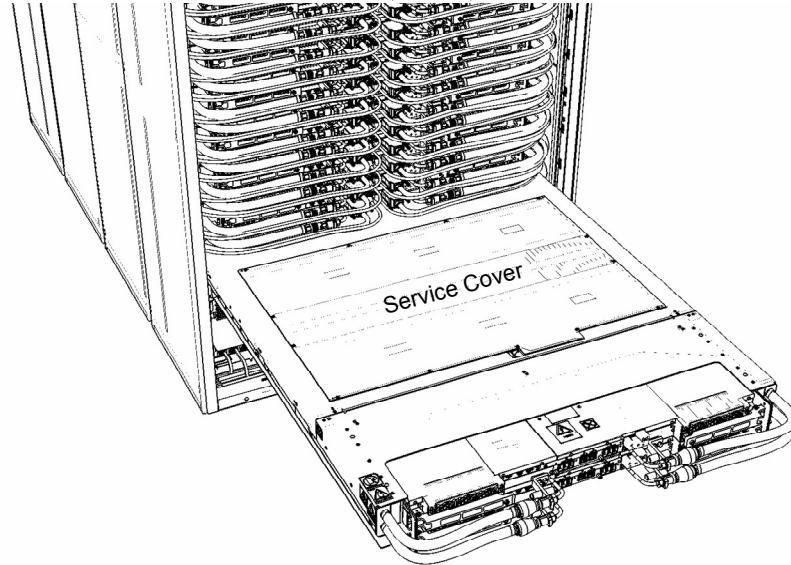


Figure 22 CEC Drawer in service position

STEP 36 Remove the Service Cover from the top of the CEC by loosening the 13 captive screws as shown in Figure 23. A flat blade screw driver PN 73G5367 is provided in the tool kit.



Figure 23 Service Cover Screw Removal

3.8 Replace VPD Card <= SSR TASK

STEP 37 Locate the VPD card as seen in Figure 24. In the following steps take care not to damage CEC drawer hardware including mechanical tabs and connector interface.

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Figure 24 VPD card in CEC drawer

STEP 38 To remove the VPD card, first use your thumb to disengage the tab closest to the DIMM side as seen in Figure 25.



Figure 25 VPD card Removal

STEP 39 Using your index finger pull up on the top right corner of the VPD card so that the card is over top of the tab as seen in Figure 26.

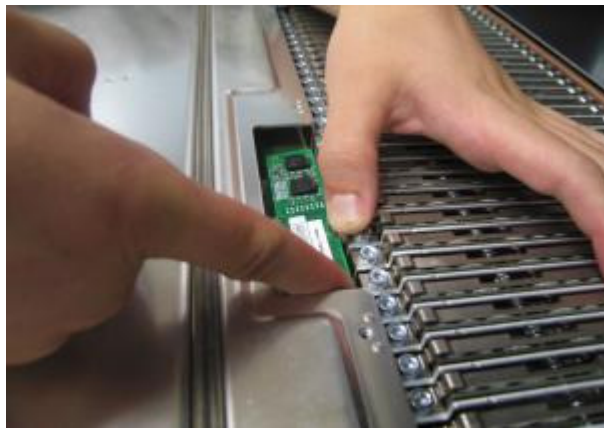


Figure 26 VPD card Removal Continued

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STEP 40 Now depress the remaining tab that is closest to the DCCA as seen in Figure 27.



Figure 27 VPD card Removal Continued 2

STEP 41 Finally, using your index finger again lift up on the bottom edge of the VPD card while simultaneously depressing the bottom tab as shown in Figure 28.



Figure 28 VPD card Removal Continued 3

STEP 42 The VPD card should now be easily lifted out of the CEC drawer. When it is completely removed the CEC should resemble Figure 29.



Figure 29 CEC without VPD card Present

STEP 43 Locate the new VPD card to be installed in the CEC drawer.

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STEP 44 Line up the pins of the new VPD card to the connector on the board as shown in Figure 30.

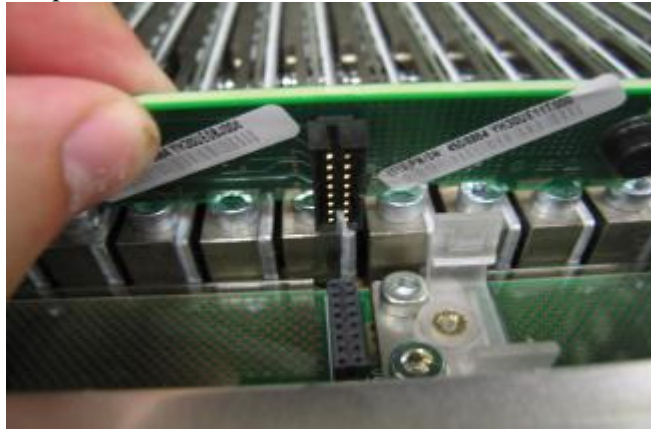


Figure 30 Replacing VPD card

STEP 45 Verify that the pins line up correctly and place the VPD card flat on top of the connector. Then using two fingers apply pressure around the area where the tabs are located until the VPD card snaps into place as seen in Figure 31.



Figure 31 Replacing VPD card Continued

STEP 46 Verify that the VPD card is in place correctly by comparing it to Figure 24.

3.9 Re-install CEC Drawer to original position <= SSR TASK



CAUTION: Pinch hazard. (L012)

ATTENTION: Small gaps exist that could pinch body parts if care is not exercised.

STEP 47 Re-install the Service Cover on the CEC Drawer. Ensure the 13 captives screws are fully seated and tight.

STEP 48 Slide the CEC Drawer back into the frame. Note, there are staggered latches in the CEC Drawer one on the left and one on the right. One or both need to be disengaged, one at a time to return the CEC drawer

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to its operating position in the rack. Use P/N 41V1059 to lift the latches. **Do not** use screw driver to lift the latches as this may damage cables.

STEP 49 Go to the rear of the rack.

STEP 50 Tighten the CEC mounting bracket screws using the following tools:

3/8" Ratchet, PN 6428140

3/8" Torque Clutch - (23 - 31 Nm torque setting), PN 74Y0985

3/8" Extension - 18", PN 46K2707

3/8" Socket Bit, 5mm Hex, PN 74Y0986

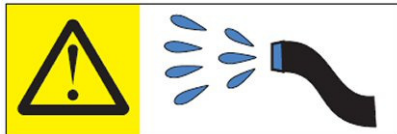
CAUTION: The water-based coolant solution may contain an additive intended to inhibit corrosion (or provide other functions). The solution may cause irritation to the skin or eyes. Avoid direct contact with the solution. Employ appropriate Personal Protective Equipment when performing operations involving the coolant or which may potentially expose you to the coolant. Refer to the MSDS for more information. (C037)



CAUTION: Protective eyewear is needed for the procedure. (L011)



CAUTION: Chemical resistant gloves are needed for this procedure. (L014)



DANGER: Risk of electric shock due to water or a water solution which is present in this product. Avoid working on or near energized equipment with wet hands or when spilled water is present. (L016)

STEP 51 Reconnect the 2 water hoses

CAUTION:

This product contains a Class 1M laser. Do not view directly with optical instruments. (C028)

STEP 52 Plug the L-Links:

- With the Optical Backplane Enclosure retracted, partially insert the top row of connector into the L-Link ports, then second, the third and the fourth, so that all connectors are partially inserted into the L-Link Ports in the CEC drawer.
- Press inward on the 2 spring clips on each of the OBE handle/sidewall assembly, slide the OBE handle/sidewall assembly forward toward, and release the spring clips, to attach it to the CEC Drawer.
- Ensure that the spring clips are properly inserted on the insides of the slotted latching plates of the CEC drawer.

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- Gently push the 4 OBE actuation handles forward, to slide the optical connectors into the L-ports in the CEC drawer. This step takes some care, since each handle actuates 12 connectors, and there may be some misalignment between one or more of the 12 individual connectors and the L-Ports in the CEC drawer. It may be necessary to rotate slightly the handle/sidewall assembly to align the connectors with the L-Ports. When all 12 connectors of a handle are aligned with the L-Ports, the handle will slide forward by ~1/2" to insert the connectors into the L-Ports.

NOTE: All 4 handles must be slid forward to prevent damage to the L-Port adapters before proceeding.

- Using the upper of the 4 actuation handles, press in the connector. When the actuator is connected a audible click will be heard for each of the 4 MPO connectors. (Approximately 20 lbs of force will be required for each of the handles to fully actuate all 12 connectors during insertion.)
- Once all 4 handles are slid forward with the L-Link connectors in the L-Ports of the adapters, do the final actuation of the handles, see Figure 32. This requires pushing the handle forward forcefully, hard enough to simultaneously seat the 12 connectors. It requires approximately 20 lbs of force for each handle to fully actuate all 12 connectors during insertion. When the connectors are fully actuated, an audible "click" will be heard, as all 12 connectors click into place.

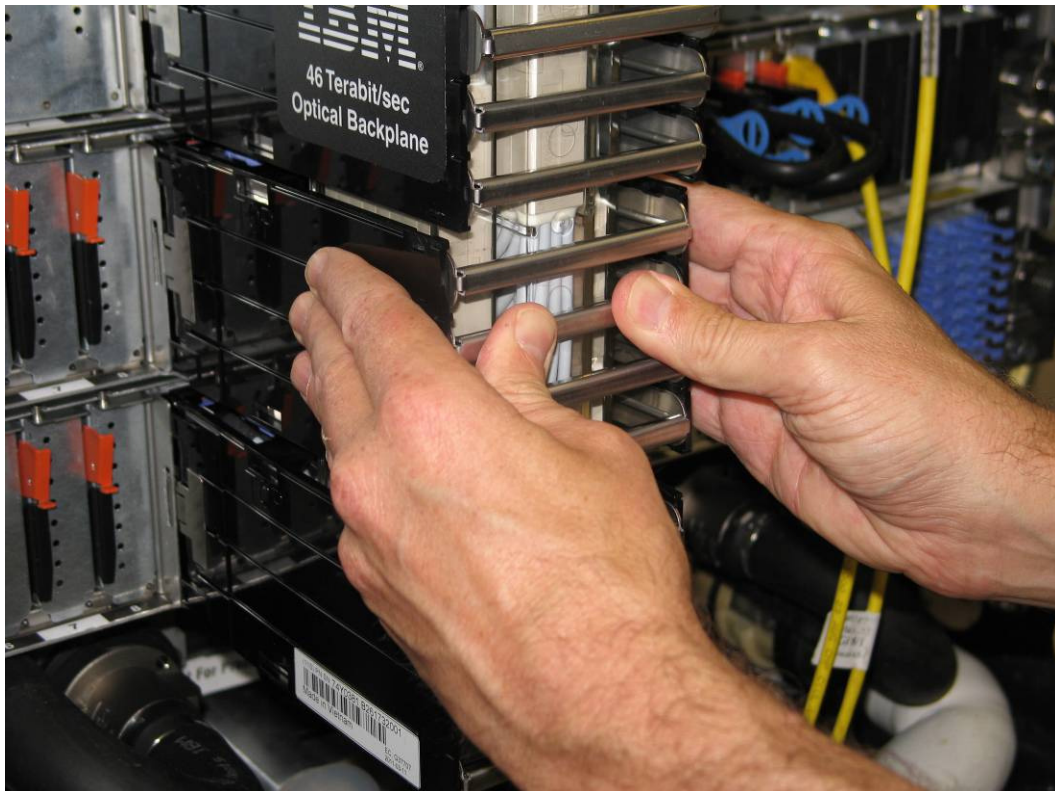


Figure 32 OBE Installation

STEP 53 Re-install the D-Links and cable support brackets starting from the bottom most position, refer to Figure 33

- Position the grouper for the D-Link optical connectors at the proper row.
- Insert the grouper into their respective D-Port adapter receptacles.
- Insert each connector into its port by pushing on the push/pull tab, or by pushing on the strain relief boot at the rear of the connector.
- Re-install the cable support brackets

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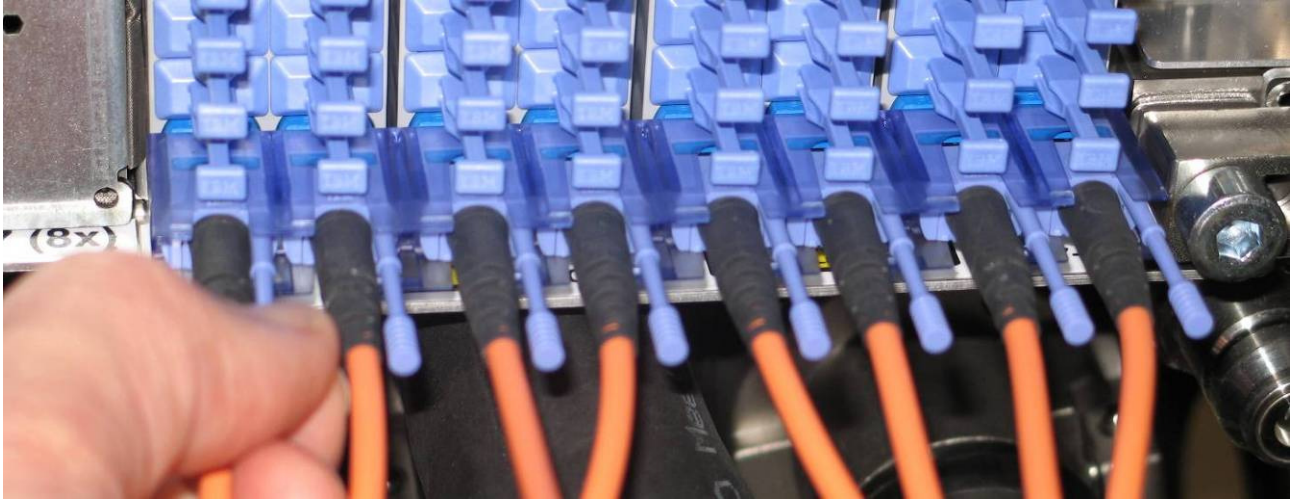


Figure 33 D-Link Grouper Installation

STEP 54 If required, re-plug all of the PCIe cables.

STEP 55 Return the CAM Followers to the original Rack storage location at the bottom of the Rack rails and secure using the retention screws which were removed in earlier step.

CAUTION:

This part or unit is heavy but has a weight smaller than 18 kg (39.7 lb). Use care when lifting, removing, or installing this part or unit. (C008)

STEP 56 Re-install and close the front door

STEP 57 Return to the HMC and the Exchange FRU R&V procedure.

GO BACK to use the R&V procedures at this point.

3.10 Power on CEC Drawer and activate VPD codes <= SSR TASK

- STEP 58 Wait for the CEC Drawer to power on. Completion of R&V Panels should initiate a drawer power on.
- STEP 59 Access ASM through the HMC. Use the administrator userid and password.
- STEP 60 Set the system identifiers.
- On the ASM Welcome pane, if you have not already logged in, specify your user ID and password, and click Log In. Note: To perform this operation, your authority level must be Administrator or Authorized service provider.
 - In the navigation area, expand System Configuration.
 - Expand Program Vital Product Data.
 - Select System Brand.
 - If the backed up system brand is correct, click Accept backed up setting and save. Otherwise, enter the correct system brand and click Continue. Note: If you do not know the correct system brand, contact your next level of support.
 - Click Save setting to update the system brand to the VPD.
 - Select System Keywords under Program Vital Product Data.
 - If the backed up system keywords is correct, click Accept backed up setting and save. Otherwise, enter the values for the machine type-model, system serial number, and system unique ID. Set the Reserved field to blank spaces unless directed otherwise by Level 4 technical support. Note: If you do not know the system unique ID, contact your next level of support. You cannot boot the system until valid values are entered for all fields. You can change these entries only once.
 - Click Save settings to update the system keywords and save them to the VPD.
- STEP 61 Log out of ASM.
-

3.11 Verify all D-Links and L-Links are operational <= Customer TASK

- STEP 62 Verify that the D-Links and L-Links are all operational.
-

3.12 Confirm with customer that CEC is operational <= SSR TASK

- STEP 63 Confirm with the customer that the CEC is operational, including all the D-Links and L-Links.
-

4 END OF POWER775 VITAL PRODUCT DATA (VPD) CARD SERVICE PROCEDURE